UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,459	04/14/2005	Frank Cuypers	123512	1348

25944 7590 06/19/2008

OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
DESHPANDE, KALYAN K	
ART UNIT	**PAPER NUMBER**
3625	

MAIL DATE	DELIVERY MODE
06/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,459	CUYPERS, FRANK	
	Examiner	Art Unit	
	Kalyan K. Deshpande	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/4/05 & 12/15/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

The following is a non-final office action in response to the communications received on April 14, 2005. Claims 24-46 are now pending in this application. Applicants' cancellation of claims 1-23 is acknowledged.

Information Disclosure Statement

The examiner has reviewed the patents and articles supplied in the Information Disclosure Statements (IDS) provided on May 4, 2005 and December 15, 2005.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 24-46 recite the terms "development" and "development intervals". It is unclear from the language of the claims and the specification as to exactly what is meant by these terms as they related to the context of the present invention. For the purposes of examination, Examiner interprets these terms to mean a time interval and time segment used in the generation of a neural network.

Claims 27-28, 33-34 and 43-44 recite limitations “characterized in that the neural networks N.sub.ij for the same j are identical, the neural network N.sub.i+1,j=i being generated for an initial time interval i+1, and all other neural networks N.sub.i+1,j<i corresponding to networks of earlier initial time intervals” and “computer-based system according to claim 24, characterized in that the system further comprises events P.sub.i,f with initial time interval i<1, all development values P.sub.i<1,k,f being known for the events P.sub.i<1,f”. It is unclear what is meant by these limitations. For the purposes of examination, these limitations are taking to mean generating a neural network for an initial time interval value.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 24-46 are directed toward a mathematical algorithm *per se*. There is no practical application of the algorithm, thereby rendering the claimed invention an abstract idea *per se* (which is non-statutory under § 101). Consequently, the claims fail to produce a result that is useful, concrete, and tangible. Additionally, the values, vectors, matrices, and thresholds are so broadly defined that it is not clear how they specifically relate to a customer experience ratings. The claims are so broadly and abstractly written that they attempt to preempt every "substantial practical application" of an abstract idea, law of nature or natural phenomena because it would in practical effect be a patent on the judicial exceptions themselves, which is prohibited under § 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 24-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaya et al (U.S. Patent Application Publication No. 20020161664).

As per **claim 24**, Shaya teaches "computer-based system for automated experience rating and/or loss reserving" (see Shaya paragraph 44), "a certain event P.sub.if of an initial time interval i including development values P.sub.ikf of the development intervals k=1, . . . ,K, K being the last known development interval with i=1, . . . , K, and all development values P.sub.1kf being known" (see Shaya paragraphs 86-88, 92-93, and 135-136; where a certain event (such as a product feedback from a user) over a time interval are collected. The development interval is the duration that the neural network is in condition to train the data processing.), characterized in that the system for automated determination of the development values P.sub.i,K+2-i,f, . . . ,P.sub.i,K,f comprises at least one neural network (see Shaya paragraphs 162-163; where the system is characterized by a neural network.), and "the system for determination of the development values P.sub.i,K+2-i,f, . . . ,P.sub.i,K,f of an event P.sub.i,f(i-1) comprising iteratively generated neural networks N.sub.ij for each initial time interval i with j=1, . . . ,(i-1)" (see Shaya paragraph 172; where training of the neural network is done

iteratively.). Shaya fails to explicitly teach "the neural network N.sub.ij+1 depending recursively on the neural network N.sub.ij". Examiner takes Official Notice that it is old and well-known in the art to implement recursion in to training a neural network. The advantage of this feature is that it increases the accuracy. It would have been obvious, to one of ordinary skill in the art to modify Shaya to include this feature in order to increase the accuracy.

As per **claim 25**, Shaya teaches "characterized in that for the events the initial time interval corresponds to an initial year, and the development intervals correspond to development years" (see Shaya paragraph 135; where initial time intervals are determined. The development intervals are the same as the initial time intervals in this case (and as discussed in the 35 U.S.C. 112 2nd paragraph rejection above.)).

As per **claim 26**, Shaya teaches "characterized in that training values for weighting a particular neural network N.sub.ij comprise the development values P.sub.p,q,f with p=1, . . . ,(i-1) and q=1, . . . ,K-(i-j)" (see Shaya paragraphs 44, 135, 168, and 172; where training values comprise development values.).

As per **claim 27**, Shaya teaches "characterized in that the neural networks N.sub.ij for the same j are identical, the neural network N.sub.i+1,j=i being generated for an initial time interval i+1, and all other neural networks N.sub.i+1,j<i corresponding to networks

of earlier initial time intervals" (see Shaya paragraphs 44, 135, and 168; where neural networks are generated for initial time values.).

As per **claim 28**, Shaya teaches "computer-based system according to claim 24, characterized in that the system further comprises events P.sub.i,f with initial time interval i<1, all development values P.sub.i<1,k,f being known for the events P.sub.i<1,f" (see Shaya paragraphs 44, 135, 168, and 172; where neural networks are generated for initial time values.).

As per **claim 29**, Shaya teaches "computer-based system according to claim 24, characterized in that the system comprises at least one scaling factor by means of which the development values P.sub.ikf of the different events P.sub.i,f are scalable according to their initial time interval" (see Shaya paragraphs 44, 135, 168, and 172; where the change of condition is the same as the scaling factor.).

Claims 30-35 recite a computer-based method already addressed in the rejections of claims 24-29; therefore the same rejections apply to these claims.

Claims 36-37 and 38-39 recite a computer-based method already addressed in the rejections of claims 24-29; therefore the same rejections apply to these claims.

Claims 40-46 recite computer program product that is already addressed by the rejections of claims 24-29; therefore the same rejections apply to these claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are pertinent to the current invention, though not relied upon:

Lazarus et al. (U.S. Patent No. 6430539) teaches predictive modeling of consumer financial behavior is provided by application of consumer transaction data to predictive models associated with merchant segments.

Bone et al. (Bone, R.; Crucianu, M.; "Multi-step-ahead Prediction with Neural Networks: A Review", November 2002) reviews existing approaches in using neural networks for solving prediction problems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571) 272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Smith can be reached on (571) 272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jeffrey A. Smith/

Supervisory Patent Examiner, Art Unit 3625

/kkd/